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FOR A HAPPIER,
HEALTHIER SCOTLAND

Paths for All Workplace Step Count Challenge 2015:

A qualitative study of participants' perceived
physical and mental health benefits of
participation in the Step Count Challenge

Research Report for Paths for All
January 2016

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Key messages

- This study reports the findings of interviews with ten women regarding the perceived benefits from participating in the 2015 Step Count Challenge
- Participants reported physical health benefits that included body changes, improved sleep, increased endurance and improved health conditions.
- From the interviews, the largest category of findings related to mental health benefits. Eleven themes emerged and included social benefits, increased motivation, enhanced sense of awareness and sense of achievement, improved mood, decreased stress, and enhanced quality of life.
- Eight out of ten participants also reported that participating in the Step Count Challenge was an empowering experience that helped them realize their capabilities and prioritize walking.
- There was some evidence that the physical and mental health benefits were inter-linked with physical health improvements leading to mental health benefits, and vice-versa.

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Background Information

The benefits of physical activity (PA) for physical and psychological health are well established (Lee et al., 2012) however in 2014 only 68% of men and 59% of women in Scotland were sufficiently active to achieve these benefits (Leadbetter, Geyer, & O'Connor, 2014)¹. In 2014, the Scottish Government launched a National Walking Strategy with walking identified as a key mechanism through which the population's PA levels can improve.

There is now considerable evidence that walking has physical health benefits (Hanson & Jones, 2015; Murtagh et al., 2015), even at relatively low levels (Ekelund et al., 2015). Although there are fewer studies, there is also support for the benefits of walking on mental health in terms of alleviating negative symptoms (e.g., Robertson, Robertson, Jepson, & Maxwell, 2012) and promoting positive psychological well-being (e.g., Morgan, Tobar, & Snyder, 2010). Due to these health benefits and because it requires no special skills or equipment, and is convenient and accessible to almost everyone walking has been identified as 'the nearest activity to perfect exercise' (Morris & Hardman, 1997).

A potential avenue through which participants may experience mental health benefits is by experiencing empowerment from walking. Empowerment can be defined as feeling and having a sense of control' over one's own life (Woodall, Raine, South, & Warwick-Booth, 2010). Previous research has shown that physical activity can lead to a sense of empowerment as participants experience feelings of competence (Liimakka, 2011), however to date we are unaware of any walking-related research.

Paths for All (PFA) is a primary delivery agent for walking promotion in Scotland, and their activities include an annual 8-week Walk at Work Step Count Challenge (SCC). The current delivery model of the SCC involves sending initial promotional e-mails and pdf flyers in January inviting workplaces to sign up in April to participate in the SCC in work-based teams of five at the cost of £5 per person. The participants receive an information pack highlighting the benefits of being more active, an optional pedometer (for an additional £5 charge) and access to the Step Count Challenge website. The teams set an overall 8-week step-count goal and may identify a theme for their challenge (e.g., map on the wall with a specific destination). Additionally, through the website participants provide baseline data from week 1 and from this, self-referenced goals are automatically set for each participant. These automated goals were designed to progressively increase participants' walking throughout the 8-weeks, so that by the end of the intervention participants would be achieving the current physical activity recommendations (i.e., 150 minutes of walking). A Team Captain is charged with encouraging

¹ Based on achieving the recommendation of accumulating 150 minutes of PA per week

the participants and monitoring the recording of the weekly step-count. Participants also receive e-mail updates from PFA throughout the 8-weeks regarding collective step-count tallies. Individuals also receive a congratulatory email when they achieve their best 'step' day and week, and may receive an e-mail prompt if they have not added data for more than three days. Finally, participants may also choose to participate in an on-line blog.

The purpose of this report (and 2-page graphic in Appendix 1) was to detail the findings from a small scale qualitative study (n=10) conducted as part of an MSc Physical Activity for Health dissertation that aimed to identify what participants perceived were the benefits of participating in the SCC. The study aimed to answer the following research questions:

1. What were participants' perceived physical health benefits of the SCC?
2. What were participants' perceived mental health benefits of the SCC?
3. Was the SCC an empowering experience to participants? How so?

Method

Participants

In 2014, 83% of the SCC participants were women, so we opted to focus only on women. We invited participants from the Central Belt of Scotland to take part in the research study via an email to all participants in the week following the end of the SCC, with a reminder email sent out 2.5 weeks later. Participants (n=10) in the study were aged between 28-57 years of age. All but one participant were office-based, seven had previously participated in the SCC, and three of the participants were captains of their SCC team.

Measures

We designed a semi-structured interview schedule that focused on participants' experiences of the SCC and what they perceived to be the main benefits for them physically and mentally, and if the experience was empowering (i.e., enhanced a 'feeling and having a sense of control' over one's own life (Woodall et al.,2010). Example questions included:

- a. Can you tell me about any physical health changes that you experienced as a result of the challenge?
- b. How would you say the SCC affected your psychological well-being – that is how you think and how you feel?
- c. Would you say your experience of the SCC was an empowering one? How so?

Procedure

Ethics approval for this research was granted through the University of Edinburgh School of Education Ethics Committee. Participants were recruited through Paths for All, who distributed an e-newsletter detailing the purpose of the study to all participants in the SCC. Participants interested in taking part in the study contacted the primary researcher and were provided with full information on the requirements of the study. Participants then completed an informed consent form and provided some demographic information (i.e. age, job position, etc.) before the interview. Participants were then met by the primary researcher at a place of their convenience for the interview. All interviews were recorded on a digital device and subsequently transcribed verbatim prior to analysis. In the reporting of the results all participants were assigned a pseudonym and no personally identifiable information has been included in order to preserve confidentiality.

Analysis

All interview transcripts were analysed using the Framework Analysis (FA) (Gale, Heath, Cameron, Rashid, & Redwood, 2013) method for data management, analysis and identification of relevant themes. Through FA, common themes across participants can be identified by clustering together extracts with similar meaning and creating a framework to address the research questions. A strength of FA is that each individual interview is

analysed in turn so that the responses of each individual can be preserved, and it is possible to compare individuals across the framework. We took several steps to enhance the trustworthiness of the analysis (e.g., included a second researcher, undertook member checking).

Results

Perceived Physical Health Benefits

Figure 1 illustrates the 5 themes of Body Changes, Improved Sleep, Increased Endurance, Improved Health Conditions and Other General Benefits, and the respective 5 sub-themes that emerged relating to perceived health benefits. From the 10 participants, 9 reported physical health benefits and Figure 1 also illustrates which participant reported which sub-themes.

Figure 1: The main themes and sub-themes for Physical Health (PH) benefits.

Particip't	Themes and Sub-themes							
	Body Changes			Improved Sleep	Increased Endurance		Improved Health Conditions	Other General PH Benefits
	Weight Loss	Increase in Fitness	Other		Increased Energy	Increased Stamina		
Sharon								
Susan								
Kate								
Vanessa								
Tiffany								
Kelly								
Jane								
Viviane								
Emma								
Jennifer								

NB - Shaded boxes represent the different PH benefits reported by each participant.

Body Changes

From weight loss to an improvement in physique and physical fitness, the majority of participants experienced positive physical/body changes as a result of the SCC. Participants who experienced these changes were pleased with the outcome. For example, Susan expressed, "...*actually just be aware of, my figure changing;*

shape; you know, that's a motivator as well; I was actually feeling better!" Similarly, Jane, happily reported, *"I certainly changed (body) shape."* Susan and three other participants also reported having lost some weight and gotten more physically fit as a result of regular walking during the SCC. When asked how the SCC provided PH benefits, 6/10 participants reported *"trimmer"* and *"more toned"* physiques, and a few reported having *"stronger legs."*

Increased Endurance

Six of the ten participants reported experiencing an increase in physical endurance during the SCC. Frequent daily walks during the SCC contributed to an increase in energy after walks, and an increase in stamina during walks or other activities. For example, Tiffany stated that she felt less tired when participating in other activities, such as rock climbing, and explained that her continuous increase in walking, during the SCC, contributed to her increase in stamina when she would rock-climb. Viviane reported that she was increasingly able to walk longer distances with less effort, therefore also feeling an increase in stamina.

Improved Sleep

Among other most commonly reported PH benefits, four participants reported that they had better quality of sleep during the SCC, due to an increase in walking.

Improved Health Conditions

A few participants also recalled that by starting to walk more (due to the SCC), they experienced an improvement in health conditions that they suffered from. For example, Sharon expressed *"...I found that I had less pain and things like that, because of walking,"* and stated that she realized that she was not taking as many painkillers as she used to (prior to the challenge, and therefore to walking regularly/every day). Kate also reported feeling an improvement in a health condition she had suffered from, and Vanessa stated that she experienced a significant improvement in her chronic health condition due to SCC/more walking, thus also relying less on her medication, during SCC.

Other General Physical Health Benefits

Participants also reported having experienced other, more general PH benefits, such as improvement in posture, general well-being, feeling less fatigued after walks, less breathless during walks, and *"just feeling a lot healthier generally,"* as Tiffany reported. Viviane stated that increasing her walking during the (and as a result of the) SCC *"felt like a big (positive) change"* in her PH.

Perceived Mental Health Benefits

Figure 2a, 2b and 2c show the 11 main themes and 18 sub-themes related to perceived mental health benefits. All ten participants reported experiencing mental health benefits, and the figures also illustrate who experienced which benefit. Figure 2a highlights the main themes of Social Benefits and Increased Motivation.

Figure 2a: The main themes and sub-themes of Social Benefits and Increased Motivation within the Mental Health (MH) benefits

Participants	Main Themes and Sub-Themes						
	Social benefits				Increased Motivation		
	New people	Socialise at/outwith work	Team is fun	Social activity	Self-Motivation	Team Motivation	Other motivators
Sharon							
Susan							
Kate							
Vanessa							
Tiffany							
Kelly							
Jane							
Viviane							
Emma							
Jennifer							

N.B. Shaded boxes represent the different MH benefits reported by each participant.

Social Benefits

A majority of participants reported having experienced several social benefits due to the SCC, such as meeting new people, socializing with colleagues (at or outwith work), enjoying being part of a team, and/or by making walking/the SCC an enjoyable social activity with others (loved ones/friends). For example, Tiffany reported *“It was nice to get out with colleagues at work, ‘cause we would chat about things that weren’t just work-related.”*

She also stated that the SCC introduced positive social benefits with her partner (who was also SCC participant) and how they benefitted from making walking a social activity with friends.

Viviane reported that she met new people (on the train) who were also doing the SCC (it became a conversation topic to socialize with new people), and also enjoyed getting to know people at work better. She, along with Jennifer, also stated that the SCC was a good way of working with colleagues (spent more time together; socializing), and that it was enjoyable walking with colleagues as they got to know each other more and enjoyed good social activity together. Kelly expressed that SCC motivated her to also make walking a social activity with her husband, thus found a new way/activity to enjoy together.

Increased Motivation

All interviewees discussed the different ways in which the SCC increased their motivation. Seven participants reported feeling motivated (to walk more) by the weekly targets that were set for them: *"I like how you always have those targets and you're always pushing yourself to try and meet them"* (Kelly). Viviane was also very motivated by the targets: *"It continues to push you all the time."* Experiencing health benefits also increased the motivation of some participants to keep walking. For example, Susan stated *"...actually just be aware of, my figure changing; shape; you know, that's a motivator as well; I was actually feeling better!"*

For some other participants, it was being part of an enthusiastic and/or competitive team that increased their motivation. For example, after having seen how motivated her colleagues were as they increased their steps, Susan felt motivated to do the same as she stated *"It made me up my game."*

Some participants also reported that the SCC increased their self-motivation in a number of ways. For example, Jennifer reported that she felt more motivated to keep active and start going to a gym, as a result of the challenge. Kate reported that she had felt more motivated to try different activities: *"It made me to go to do different things, like tennis."* As she further explained how the SCC increased her motivation, Susan articulated: *"As an individual, I became more motivated; in terms of my own, with team responsibility, and as a team player."*

Figure 2b shows the second of the findings related to Mental Health benefits and includes four main themes and six sub-themes.

Figure 2b: The main themes and sub-themes of main themes of Sense of Awareness, Sense of Achievement, Improved Mood and Improve Stress Management within the Mental Health (MH) benefits

Partic'ts	Main themes							
	Sense of Awareness				Sense of Achievement	Improved Mood		Decrease Stress
	Conscious of Steps	Realizing Walking Impact	Mindfulness	Other		Feeling Happy	Feeling Better	
Sharon								
Susan								
Kate								
Vanessa								
Tiffany								
Kelly								
Jane								
Viviane								
Emma								
Jennifer								

NB – Shaded boxes represent the different MH benefits reported by each participant

Sense of Awareness

All participants reported gaining a sense of awareness due to taking part in the SCC. Most participants spoke of how the challenge made them more conscious about increasing their step counts. As Sharon had put it: *“I consciously thought, ‘right, I need to do some different things,’ and I parked further away in the morning, and went for an extra walk in the evening, when I got home, just to see if I could, you know, figure out ways to do some more steps.”* Viviane also stated that she became more conscious of walking more regularly as she explained that the SCC made her think more about her health: *“I feel very conscious to not have done much walking that I need to actually do.”*

Participants (6/10) also expressed that their increase in walking during the SCC brought to awareness the importance of walking for health benefits. After having experienced how walking positively affected her physical and mental health, Sharon stated that she realized that *“even (walking) a little bit, or just a short time, it does help (you) a lot.”*

Three participants reported that experiences of the challenge also brought about a sense of mindfulness, in which they became more aware and appreciative of their surroundings and the present moment during their walks. For example, Vanessa mentioned that she felt *“really lucky”* when walking outside, as she looked at the trees around her, observed her surroundings, and let herself *“be in the present moment.”*

Participants also identified other ways in which the SCC increased their awareness. For example, some participants expressed becoming more aware of changes that they need to make to their lifestyle: *“...it definitely changed my focus towards some sort of healthy activity...”* (Sharon). Some participants also highlighted that the challenge brought to awareness that it is not difficult to incorporate regular walking into their daily schedules: *“(SCC) has shown me that I can fit in a decent amount of activity into my day if I just plan it a bit better”* (Jane).

Sense of Achievement

Most participants (9/10) reported that the SCC gave them a sense of achievement. As Jane pointed out: *“...the sense of achievement, because you’ve achieved your goals; that was always good.”* Participants reported feeling proud of themselves for what they accomplished; not only for meeting their step targets, and completing the challenge, but also for doing what they knew was good for their health. Viviane, reported how rewarding her experience was as she stated: *“I felt like I was achieving something, but during my commute. So it was just seeing the whole experience of commuting slightly differently; umm... as achieving something, rather than just getting to somewhere.”*

Improved Mood

Many participants also reported significant improvements in their mood after walks they’d take during the challenge. Improvements in mood included feeling ‘better’ and/or feeling happy/happier after they completed walks (during/for the challenge). For example, Jennifer reported that she felt she had a more positive attitude (after walks), and expressed, *“Just (felt) glad to be out, away from your desk, and just stretching out, and then when I’m back I just feel more positive.”* *“You always feel better in the fresh air, and then when you came back (from the walk), you’re ready to work,”* she added. Viviane and Kate expressed that having walking made them feel happier. *“It lifts your spirits!”* Kate happily expressed.

Jane and Viviane also reported that they felt more positive after going for walks outdoors and getting some fresh air. Kelly added that during the SCC, when in a *'bad mood'*, going for a walk improved that, as she, along with Tiffany and Kate stated that she always felt *'mentally better'* while and after going for a walk.

Decreased Stress

Some participants reported that taking part in the challenge and walking more helped introduce a less stressful life. For example, Kate stated that it helped her *'escape'* work pressures. Other participants stated that walking alone helped to get some quiet time to relax (Kelly), and to Viviane, commuting became a relaxing part of her regular day as she incorporated more walking into it. Emma also expressed, several times during the interview, how she felt much calmer and less stressed (from work) after walks. She expressed, *"...it gives you time to think about things, and it helps you to manage your stress."* Kate also expressed, *"I think it probably helped me through all the busy time I have at work, it might have got me down otherwise."*

The SCC also helped introduce walking as a way to cope with stress from different areas in some participants' lives. Jennifer expressed that it gave her *"a clear head for dealing with work challenges or home challenges or whatever else that comes through."* Vanessa reported that she would walk to de-stress herself and worry less. Similarly, Emma stated that it helped *"control my stress or alleviate depression or my mood change."*

The final five main themes related to mental health benefits are shown in Figure 2C and include Improved Quality of Life, Sense of Team Identity, Efficiency, Time/Space for Self and other General Mental Health benefits.

Figure 2C: The main themes of Improved Quality of Life, Sense of Team Identity, Efficiency, Time/Space for Self and Other General Benefits within the Mental Health (MH) benefits

Participants	Main themes				
	Improved QoL	Sense of Team Identity	Efficiency	Time/Space for Self	Other General MH Benefits
Sharon					
Susan					
Kate					
Vanessa					
Tiffany					
Kelly					
Jane					
Viviane					
Emma					
Jennifer					

NB – Shaded boxes represent the different MH benefits reported by each participant

Improved Quality of Life

Most participants (9/10) reported that their overall experience of the SCC had a positive influence on their quality of life, and many shared that that was mainly due to the different PH and MH benefits experienced from increasing their step counts (walking). For example, in confirming how her daily life was positively affected, Kate shared: “...mentally and physically it was good for me.” Also, Sharon explained that feeling less pain from her chronic health condition had a (positive) “big difference” on her quality of life during the challenge, as she, too, enjoyed more PH and MH benefits as a result.

Participants also reported different ways in which their quality of life was improved. Viviane, for example, recounted that the SCC brought a new definition to what it meant to have “a good day”; as she explained that it became one in which she had done a good amount of walking; thus highlighting how walking positively influenced her MH: *“I think it gives me; or gave me, but it continues to give me, because I’ve changed what I do; umm... like space to kind of, to reflect at the end of the day, umm... and at the start of the day, umm... and also to clear my mind a little bit.”* Also, Susan reported that her quality of life was “significantly better” as a result of walking every day during the challenge: *“Because I was active on a daily basis, I was actually looking forward to it, I was quite enjoying it.”*

Sense of Team Identity

A few individuals also reported having enjoyed the sense of team identity they experienced during the SCC. For example, Sharon explained how she and her teammates were determined motivated to support and encourage each other and did certain things like take funny group photos together, as she expressed “It was kind of like, ‘Here we are, we’re a team’.” She further explained, “While it’s really an individual, um, activity, most of the time, you know, people are all walking individually; we all told each other stories, and, and came together, and um, I think a focus on that was really useful; just having little things.”

Increased Efficiency

Increasing their walking during the SCC seemed to increase participants’ efficiency in the workplace. Kate shared that *“...it cleared my mind and I think I worked much more efficiently...”*. Vanessa and Jane also reported that after going for walks, they experienced improvement in their concentration (at work). Similarly, Viviane stated that she was *“a lot more productive”* after a lunchtime walk and walking to work, and therefore felt more *“switched on”* at work.

Time/Space for Self

Some participants reported that they enjoyed the space that they got from going for walks during the SCC. *“It gives you that TIME to clear your head, and get some fresh air,”* Sharon expressed. *“In a way, it’s a choice to go off and be on your own and let your head just chill a bit from the frantic,”* she added. Tiffany stated that walking home from work helped her to reflect on her day, and Kelly also reported having enjoyed the time and space that helped her *‘think’*, as a result. Similarly, Viviane expressed that she felt that she had more *‘head space’*, that she needed, and shared: *“I think it gives me; or gave me, but it continues to give me, because I’ve changed what I do; um, like space to kind of, to reflect at the end of the day, um and at the start of the day, um, and also to clear my mind a little bit.”*

Other General Mental Health Benefits

Participants also reported other MH benefits. Sharon, Susan, Kate and Jennifer all expressed that they experienced benefits in their overall well-being as a result of the challenge, and many reported that they felt that their experienced PH and MH benefits were interrelated in many ways. For example, Sharon stated, *“I know they (PH & MH) affect each other but, um- probably because I’m from, on a day-to-day basis, aware of pain quite a lot, you notice when you’re not in pain, and I was quite noticeable of that.” “And that actually had a knock-on effect, you know, obviously if you sleep better and, yeah, you’re less fatigued, I mean fatigue is quite a big part, it’s not just pain’.* Vanessa reported that her SCC experience brought about personal growth as she became more mindful, and helped her realize what she is capable of doing. While Viviane shared that the SCC helped increase her self-efficacy

Empowerment

When asked whether the SCC was an empowering experience to participants in terms of enhancing their ‘feeling and having a sense of control’ over one’s own life (Woodall et al., 2010), all but two of the participants reported that it had been (see Figure 3). Participants expressed having felt empowered in two main ways; by realizing their capabilities and by being able to prioritize walking.

Figure 3: The main themes and sub-themes relating to feelings of empowerment following participation in the Step Count Challenge

Participants	Main Theme	
	Realizing Capabilities	Able to prioritize walking
Sharon		
Susan		
Kate		
Vanessa		
Tiffany		
Kelly		
Jane		
Viviane		
Emma		
Jennifer		

Realizing Capabilities

Eight of the ten participants felt empowered as they came to realize what they were capable of achieving, and felt that they could be in control of their health and/or well-being, to a certain extent. For example, Kelly stated: *“...I was able to reach those targets, so yeah...it’s just giving you the confidence that you can do it.”*

Viviane, stated that she always knew that there were many PAs she could not perform due to her chronic health condition, yet, explained that her experience of the SCC empowered her as she realized that she was still very capable of taking control of her health and improving it by walking: *“It (SCC) makes me feel a bit more in control of my, of my like health.”* She added: *“I feel like... I’ve got more control again, of my physical health.”* Jane described her experience to be empowering as she reported *“(SCC) has shown me that I can fit in a decent amount of activity into my day if I just plan it a bit better.”*

Able to prioritize walking

Some interviewees reported that the SCC empowered them to make walking/PA one of their priorities. For example, Sharon stated that the SCC helped her become more decisive with setting health priorities and doing what was healthy/good for her: *“...you get more decisive, and you say to people, ‘no, I just can’t, I can’t do that’* (because she planned to fit in walking into her schedule, and will stick to it). Jane reported that the SCC made her realize the importance of daily walking and PA, and stated that this empowered her to prioritize them as part of her daily schedule: *“I did plan it (more walking and PAs) into my life, and I continue to do that.”*

Discussion

This study found that the participants reported many benefits from participating in the Step Count Challenge. All but one participant identified physical health benefits, all participants identified some mental health benefits, and 8 of the 10 participants found the experience empowering. It was clear that the category with the most perceived benefits was mental health with 11 main themes identified, compared with 5 related to physical health.

Within the mental health category, the benefits that emerged which were reported by the most people included increased motivation, sense of awareness and enhanced quality of life. It is possible to interpret this finding as meaning these are the most meaningful findings. However, many researchers caution against over-quantifying qualitative data and we would suggest that each of the benefits had considerable meaning for those participants who identified them.

Although not evident from the results section, there was some evidence that the different types of benefits were linked to one another. For example, as participants gradually increased their steps counts, they began to experience certain physical health benefits (i.e. weight loss, improved sleep, etc.) and these benefits influenced participants’ mental health as they experienced benefits (i.e. motivation and/or sense of achievement), which, in turn, could bring about a sense of empowerment. In highlighting this explanation, Susan reported, *“actually, just being aware of my figure changing shape, you know, that’s a motivator as well; I was actually feeling better!”*

These findings support previous literature that has shown walking can lead to physical and mental health benefits (Hanson & Jones, 2015; Murtagh et al., 2015) (Robertson et al., 2012), and also provides some new evidence that participating in walking interventions can be empowering.

It should be noted that the research study was designed to focus on the benefits of participation in the Step Count Challenge, and therefore the findings provide a very positive perspective on the experience. Additionally, participants volunteered to take part in the study and may represent a skewed sample of participants who had had a positive experience and were keen to discuss their experiences. Further research that recruits using a different method and also considers the possible drawbacks of participation would also be useful to provide a more balanced perspective.

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Appendix – Summary of findings

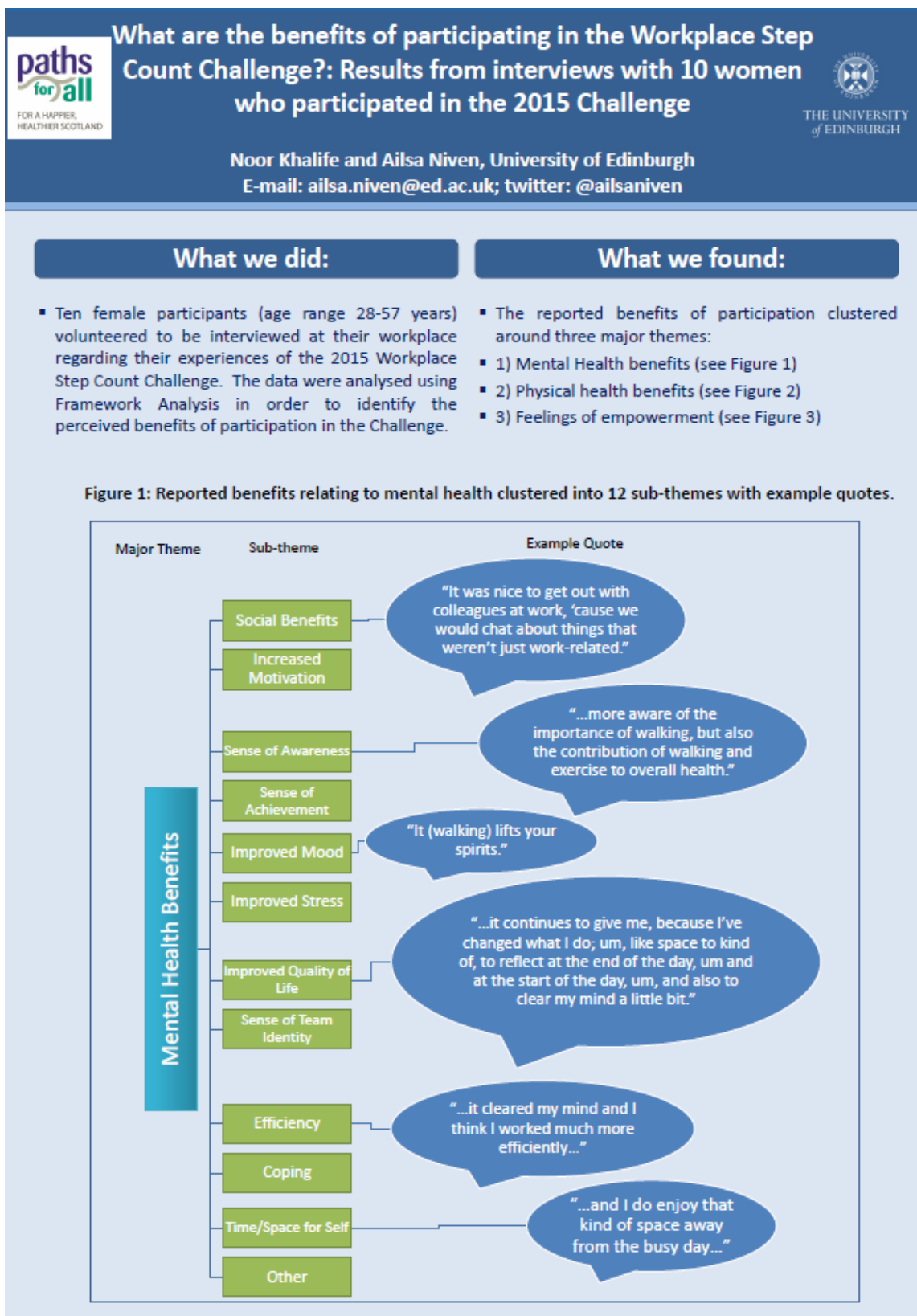


Figure 2: Reported benefits relating to physical health clustered into 5 sub-themes with example quotes.

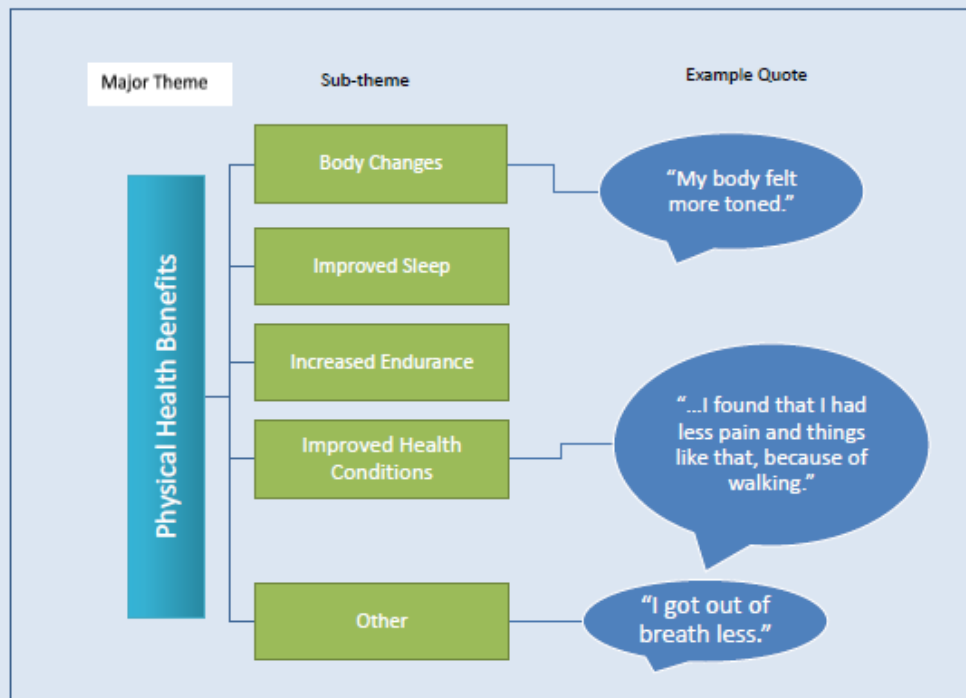
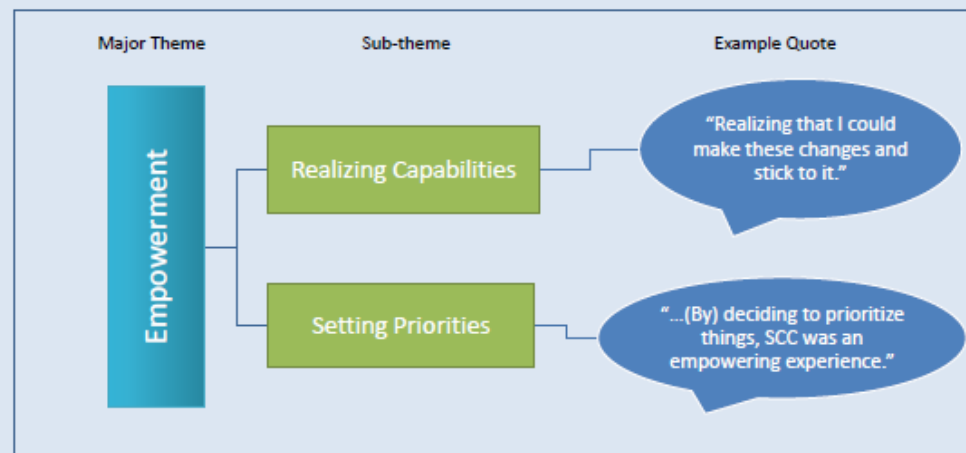


Figure 3: Reported benefits relating to empowerment clustered into 2 sub-themes with example quotes.



What does this mean?:

- Participants identify a number of benefits of participating in the Step Count Challenge with the majority of the benefits relating to mental health. It was apparent that the mental and physical health benefits were interlinked (i.e., feel better physically then feel better mentally). Although this sample was small and therefore the findings should be viewed as preliminary, they do provide support for promoting the Step Count Challenge.

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